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AMENDMENTS TO THE CLAIMS

In the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

1.   (Currently Amended) A cooling device comprising a cooler provided in an interior that is insulated adiabatically from an exterior, a cooling fan disposed on a front surface of the cooler, and a cooling chamber that is defined by a space in front of the cooling fan and in which an object to be cooled is placed, the cooling device drawing cooled air behind the cooling fan with the fan and allowing the cooled air to flow into the cooling chamber,

wherein $a/D = 1/2$ to $1/4$ is satisfied, where a indicates a dimension of a first gap between the cooler and the cooling fan along a front–back direction and D indicates a diameter of the cooling fan,

a dimension of a second gap between the cooler and a wall surface on a back surface side of the cooler is set to be larger than 50 mm, and

an air pressure at a point located 100 mm forward of a point of rotational center of the cooling fan is allowed to oscillate or pulse by adjusting a ~~number~~ rate of revolutions of the cooling fan.

2.   (Original) The cooling device according to claim 1, wherein an average pressure at the point located 100 mm forward ranges from 10 gf/cm² to 28 gf/cm².

3.   (Currently Amended) The cooling device according to claim 1, wherein the ~~number~~ rate of revolutions of the cooling fan is adjusted so that resonance occurs in the pressure oscillation or pressure pulsation when the dimension a is varied.

4.   (Original) The cooling device according to claim 1, wherein a lateral surface of the cooler is covered with a control plate so as to prevent substantially air from moving in and out through the lateral surface of the cooler.

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5.   (Currently Amended) The cooling device according to claim 1, wherein a number the rate of revolutions of the cooling fan is adjustable.

6.   (Currently Amended) The cooling device according to claim 5, wherein the number rate of revolutions is 1200 to 2100 rpm.

7.   (Previously Presented) The cooling device according to claim 1, wherein a vibration driving portion for vibrating a placement stage on which the object to be cooled is placed is provided in the cooling chamber.

8.   (Previously Presented) The cooling device according to claim 1, wherein a plurality of the coolers are present, the coolers are provided so as to face each other with the cooling chamber interposed therebetween, and the cooling fans provided respectively on the front surfaces of the facing coolers are offset so as not to face each other.

9.   (Previously Presented) The cooling device according to claim 1, wherein a number of the cooling fans provided on the front surface of the cooler is more than one, and when the front surface of the cooler is divided virtually into a plurality of blocks, the cooling fans are arranged on the front surface corresponding to blocks selected in a staggered manner.

10.   (Previously Presented) The cooling device according to claim 1, wherein a rotation of the cooling fan is set to be counterclockwise in the Northern Hemisphere and clockwise in the Southern Hemisphere.

11.   (Currently Amended) The cooling device according to claim 1, wherein both of a maximal value of a frequency (Hz) of the pressure oscillation or pressure pulsation and a maximal value of an amplitude relative to pressure (T/P_{ave}), which is the ratio of an amplitude T of the pressure oscillation or pressure pulsation to the average pressure P_{ave}, are present in a vicinity of $a/D = 1/4$.

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12.   (Previously Presented) The cooling device according to claim 1, wherein the cooling device is a sealed interior cooling device, a spiral freezer cooling device provided with a conveyor for conveying the object to be cooled spirally or a tunnel freezer cooling device provided with a conveyor for conveying the object to be cooled horizontally.

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